AMENDMENTS TO THE CLAIMS:

Replacement Claim Set:

1. (Currently amended) A stent comprising a stent body constructed of a material including a stent metallic substance and a carbon deposit ~~implanted on a molecular level~~ present at a molecular level within the stent metallic substance and at a depth within a surface of the stent.

2. (Previously Presented) The stent of Claim 1, additionally including a plasma polymerized film layer formed on the surface of the stent, wherein the plasma polymerized film layer is chemically bonded to the carbon deposit.

3. (Original) The stent of Claim 1, additionally including a polymer layer formed on the surface of the stent.

4. (Original) The stent of Claim 3, wherein the polymer layer comprises an acrylate.

5. (Original) The stent of claim 3, wherein the polymer is formed by exposing the stent to an acrylic acid plasma.

6. (Original) The stent of Claim 1, additionally including a plasma polymerized film layer deposited on the surface of the stent, wherein the film layer includes functionalities selected from a group consisting of carboxylate, amine and sulfate functional groups.

7. (Original) The stent of Claim 1, wherein the depth of the carbon deposit is less than about 2000 Å from the surface of the stent.

8. (Original) The stent of Claim 1, wherein the surface of the stent is the tissue-contacting surface of the stent.

9. (Currently amended) The stent of Claim 1, wherein the stent metallic substance comprises ~~is made from~~ stainless steel.

10. (Original) The stent of Claim 1, additionally including an organic film layer formed on the surface of the stent and covalently bonded to the carbon deposit; and a polymeric layer formed on the organic film layer, wherein the polymeric layer contains a therapeutic substance.

11. (Original) The stent of Claim 1, additionally including an organic film layer covalently bonded to the carbon deposit and a polymeric layer formed on the organic film layer, wherein the polymeric layer contains a therapeutic substance and is capable of forming hydrogen bonds with the organic film layer.

12. (Currently amended) A medical device comprising an implantable body having a surface, a substance ~~implanted on~~ present at a molecular level at a depth within the surface, and an organic film layer deposited on the surface and chemically bonded to the substance.

13. (Original) The medical device of Claim 12, wherein the implantable body is a radially expandable tubular body.

14. (Original) The medical device of Claim 12, wherein the substance comprises carbon.

15. (Original) The medical device of Claim 12, additionally including a polymer layer deposited on the organic film layer, the polymer layer containing a therapeu-

tic substance.

16. (Original) The medical device of Claim 12, wherein the organic film layer is a plasma polymerized polymer layer.

17. (Withdrawn) A method of modifying a surface of a stent, comprising implanting on a molecular level carbon at a depth within the surface of the stent.

18. (Withdrawn) The method of Claim 17, wherein the stent is made from stainless steel.

19. (Withdrawn) The method of Claim 17, wherein the surface is the tissue-contacting surface of the stent.

20. (Withdrawn) The method of Claim 17, additionally comprising depositing a polymeric film layer on the surface of the stent.

21. (Withdrawn) The method of Claim 17, additionally comprising exposing the stent to an acrylic acid plasma to form a plasma polymerized film layer on the surface of the stent.

22. (Withdrawn) The method of Claim 17, additionally comprising forming a plasma polymerized film layer on the surface of the stent, wherein the polymer layer is covalently bonded to the carbon.

23. (Withdrawn) The method of Claim 17, additionally comprising depositing a plasma polymerized film layer on the surface of the stent, and forming a polymeric coating containing a therapeutic substance on the plasma polymerized film layer.

24. (Withdrawn) The method of Claim 17, wherein the act of implanting carbon comprises:

positioning a stent on a holding device in a reaction chamber, the stent being surrounded by a carbon-based grid;

introducing argon in the chamber and initiating a plasma to sputter carbon from the grid and into the surface of the stent, wherein the process is performed under the following parameters:

Process	Parameter Range
Argon	> 99.9% by volume
argon flow rate (sccm)	10 to 500
pressure in the chamber (mTorr)	0.1 to 500
RF power (watts) to create the plasma	10 to 1000
RF frequency (MHz)	2 to 2800
bias voltage applied to the stent (KV)	-5 to -30
pulse width (microseconds)	5 to 20
Frequency (stent)	DC – 2 KHz
bias voltage applied to the grid	-300 to -5000

(V)	

25. (Withdrawn) The method of Claim 24, additionally comprising: introducing acrylic acid into the chamber and initiating a plasma to form a plasma-polymerized film layer on the surface of the stent, wherein the process is performed under the following parameters:

Process	Parameter Range
acrylic acid flow rate (ml/min)	0.05 to 0.35
pressure (mTorr)	70 to 250
RF power (W)	50 to 250
RF frequency (MHz)	2 to 2800
power/flow rate (MJ/Kg)	9 to 35

26. (Withdrawn) The method of Claim 25, additionally comprising introducing carbon dioxide into the chamber to limit the rate of de-carboxylation of the acrylic acid.

27. (Withdrawn) The method of Claim 17, wherein the act of implanting carbon comprises:

positioning a stent on a holding device in a reaction chamber;

introducing a carbon-based gas into the chamber and initiating a

plasma for depositing carbon ions into the surface of the stent, wherein the process parameters are performed under the following conditions:

Process	Parameter Range
gas flow rate (sccm)	10 to 200
pressure (mTorr)	0.1 to 2
RF power (watts)	10 to 1000
RF frequency MHz	2 to 2800
bias voltage applied to the stent (KV)	-10 to -80
frequency (stent)	DC to 2 KHz
pulse width (microseconds)	5 to 100

28. (Withdrawn) The method of Claim 27, wherein the carbon-based gas is methane.

29. (Withdrawn) The method of Claim 27, additionally comprising: introducing acrylic acid into the chamber and initiating a plasma to form a plasma-polymerized film layer on the surface of the stent,.wherein the process is performed under the following parameters:

Process	Parameter Range

acrylic acid flow rate (ml/min)	0.05 to 0.35
pressure (mTorr)	70 to 250
RF power (W)	50 to 250
RF frequency (MHz)	2 to 2800
power/flow rate (MJ/Kg)	9 to 35

30. (Withdrawn) The method of Claim 29, additionally comprising introducing carbon dioxide into the chamber to limit the rate of de-carboxylation of the acrylic acid.

31. (new) The stent of Claim 1, wherein the stent metallic substance comprises an alloy.